The role of Helicobacter pylori eradication therapy in matrix metalloproteinase 9 inhibiting in gastric cancer

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Abstract

Introduction and Objective: Gastric cancer is the second common malignancy and is one of the major causes of cancer death. Helicobacter pylori infection is a risk factor for this cancer. The tissue damage caused by Helicobacter pylori in the stomach increases the level of MMP9, which by the proteolysis of many extracellular matrix compounds plays an important role in inducing cancer and metastasis. This study aimed to investigate the role of Helicobacter pylori eradication therapy in reducing MMP9 levels.

Materials and Methods: This interventional study was conducted on 60 patients with positive anti-Helicobacter pylori antibodies by ELISA method were selected in Ardabil city, Iran. After obtaining written consent, general information was collected from each patient using a validated and reliable questionnaire. The standard treatment for Helicobacter pylori eradication, including amoxicillin, clarithromycin, omeprazole and metronidazole, was prescribed. After 6 weeks, Helicobacter pylori eradication was confirmed by fecal antigens. 3 cc Fasting blood samples were taken from all of the patients for testing of MMP9 level at the beginning and end of the study. Then data were analyzed.

Results: Findings showed that 55 % of patients were female. The mean age of patients was 2±48 (mean ± SD) years. The serum level of MMP9 decreased signifi¬cantly in the patients ($p<0.05$).

Conclusion: Helicobacter pylori eradication therapy may inhibit gastric cancer induction by modulating serum MMP9 levels.

Key words: Helicobacter pylori, eradication, MMP9